

recoveries of esters from the columns ranged from 71.8 to 87.5%.

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A Suggested Modification of the Bauer Mill Used for Grinding Small Samples of Soybeans

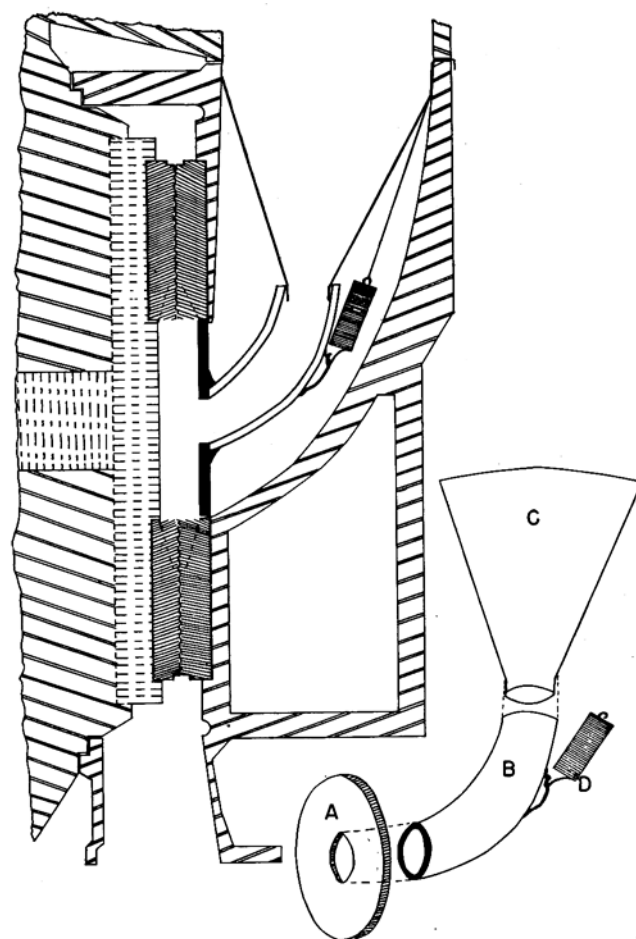
F. I. COLLINS¹

THE Bauer mill, specified for grinding samples of soybeans and cottonseed for oil determinations (A.O.C.S. Official Method Aa 4-38 and AC 3-44)

(1) has a feed throat approximately 2½ inches in diameter. During the grinding of a sample coarsely ground material is repeatedly thrown back into the throat, and a small fraction of the sample is thrown out of the mill. The throat usually retains from 3-7 grams of coarsely ground material. When the mill door is opened to remove the ground sample, this partially ground portion is usually brushed into the rest of the sample. For soybeans, Collins and Krober (2) show that coarse material in the sample may cause low values in the oil percentage when oil is determined on the sample.

The device shown in the sketch eliminates essentially all of this coarse material from the ground sample, prevents loss of the sample thrown back through the throat, and simplifies cleaning the mill between samples. The device consists of four parts: A, a circular plate of brass or iron ⅛ inch in thickness turned to fit the throat opening of the mill and with a ¾ inch hole drilled in its center; B, a curved piece of metal tubing 3 to 3½ inches long and with ¾ inch inside diameter shaped to fit the mill throat curvature and welded or soldered to the plate "A"; C, a sheet metal funnel made to fit the mill throat with the small end fitting loosely inside the tube and extending a short distance into the tube; D, a short spring with a 5- to 10-pound tension installed to hold plate "A" in position.

The sketch shows the assembled parts of the device installed in a Bauer mill of the water-cooled type. The tension spring holds the attachment described above firmly in place but also allows the mill operator to remove it quickly.



SKETCH OF MODIFIED THROAT FOR BAUER MILL

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